50GE SFP56 Direct Attach Passive Copper Cables

GSS-PC560-XXC

Features

- Up to 56Gb/s (Support 28GBaud/s PAM4)
- Up to 3 meter transmission
- Hot-pluggable SFP 20PIN footprint
- Improved Pluggable Form Factor(IPF) compliant for enhanced EMI/EMC performance
- Compatible to SFP28 MSA and SFF-8432
- Compatible to IEEE802.3cd
- Power consumption <0.1 W
- Temperature Range: 0~ 70 ℃
- RoHS Compatible

Applications

- 50G/25G Ethernet
- Infiniband QDR/FDR/EDR/HDR
- Data storage and communication industry
- Switch / router / HBA
- Enterprise network
- SAN
- Data Center Network

Product Description

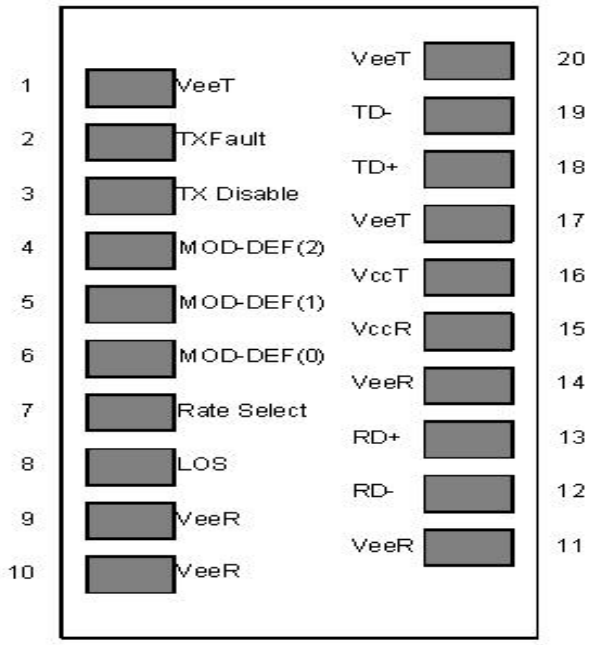
The SFP56 passive cable assemblies are high performance, cost effective I/O solutions for 50G Ethernet. SFP56 copper cables allow hardware manufactures to achieve high port density, configurability and utilization at a very low cast and reduced power budget.

Recommended Operating Conditions

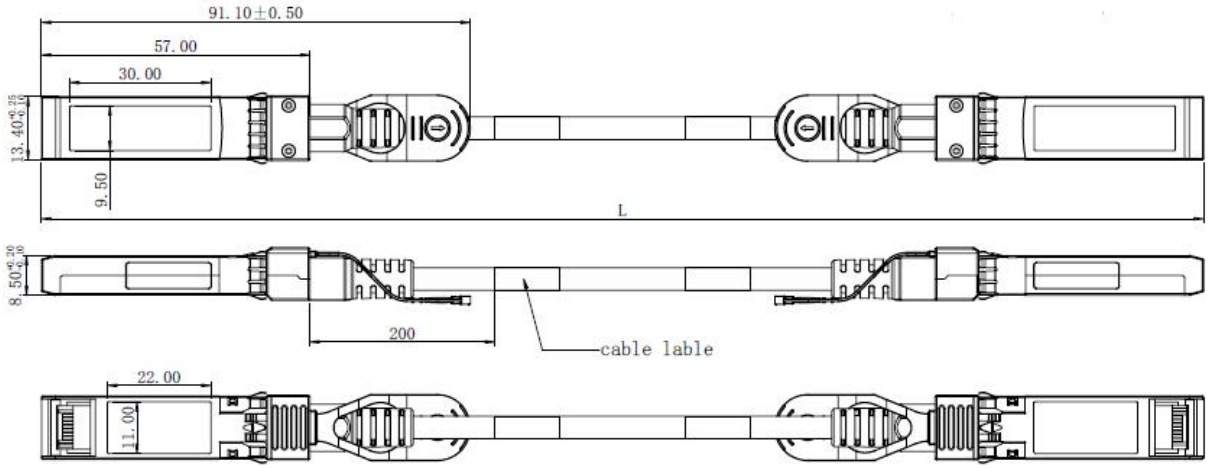
Parameter	Symbol	Min	Typical	Max	Unit
Storage Ambient Temperature		-40		+85	℃

Operating Case Temperature	Tc	0		+70	℃
Power Supply Voltage	V_{CC3}	3.14	3.3	3.47	V
Power consumption				0.1	W
Data Rate Per Lane		1		28	GBaud/s

PCB Contact Configure (SFF-MSA Compliance)



Mechanical Dimensions



Performance and Test Description

A	Time domain parameter	Test condition	Spec		Equipment
1	Differential Impedance(bulk cable)	TDR Tr:25ps	100+10/-5 ohms		E5071C
2	Differential Impedance (Mated connector)		100+/-10 ohms		
3	Differential Impedance(cable termination)		100+10/-15 ohms		
4	Intra-skew		L*15+20	L：length(m)	
				SPEC：ps	
B	**Frequency domain parameter**	**Test condition**	**Test spec(dB)**	**f(GHz)**	
1	SDD11/SD D22	Freq:50MHz ～20GHz Points:1601	-22+20/25.78*f*10^(-3)	0.05≤f<4.1	E5071C
			-10.66+14*log((f*10^(-3))/5.5) ≤5.3dB@13.26GHz	4.1≤f≤19	
2	SCC11/SC C22	Freq:50MHz ～20GHz Points:1601	≤-2dB	0.2≤f≤19	
3	SDC11/SD C22	Freq:50MHz ～20GHz Points:1601	-16+2*f/3	0.05≤f≤2	
5	SCD21- SDD21	Freq:50MHz ～20GHz Points:1601	10 as 0.01≤f < 12.89 -27+29/22*f*0.001 as 12.89≤f < 15.7 6.3 as 15.7≤f≤19	0.01≤f≤19	
6	MDNEXT	Freq:50MHz ～20GHz Points:1601	≤-26dB@12.89GHz	0.01≤f≤19	
7	SDD21	Freq:50MHz ～20GHz Points:1601 IF：1KHz	-0.7*(f*10^(-3))^0.5-0.3*(f*10^(-3))-0.01*(f*10^(-3))^2 <17.16dB@13.26GHz	0.01≤f≤19	

Test Requirements and Methods

Test Items	Specification	Test Method
Thermal shock	5 cycles of a) -10℃ for 30 minutes b) +70℃ for 30 minutes	EIA-364-32C.Test condition Ⅰ
Temperature Life	Subject mated Specimens to +70℃ for 500 hours	EIA-364-17 method A, Test condition II, Test time condition C.

Humidity and Temperature cycling	Subject unmated specimens to 10 cycles (10 days) between 25 and 65oC at 80 to 100% RH	EIA-364-31 Method Ⅲ,Test condition A
Mixed Flowing Gas	Subject specimens to environmental Class IIA for 7 days unmated, and 7 days mated.	EIA-364-65, Class IIA

Regulatory Compliance

Gigalight GSS-PC560-XXC passive cable assemblies meet the requirements of the following standards:

Feature	Standard
Electrical Safety	EN 62368-1: 2014 IEC 62368-1:2014 UL 62368-1:2014
Environmental protection	Directive 2011/65/EU with amendment(EU)2015/863
CE EMC	EN55032: 2015 EN55035: 2017 EN61000-3-2:2014 EN61000-3-3:2013
FCC	FCC Part 15, Subpart B; ANSI C63.4-2014

Ordering information

Note: You can be customized diameter and distance.

Part Number	GSS-PC560-XXC		
Length (meter)	1	2	3
Wire gauge (AWG)	30	30	26

Example:
GSS-PC560-01C/30AWG
GSS-PC560-03C/26AWG

Important Notice

Performance figures, data and any illustrative material provided in this data sheet are typical and must be specifically confirmed in writing by GIGALIGHT before they become applicable to any particular order or contract. In accordance with the GIGALIGHT policy of continuous improvement specifications may change without notice.

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Revision History

Version	Date	Description
V0	May-13-2021	New release
V1	Apr. 2nd, 2022	Update differential impedance information